

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A process for producing a purified aqueous hydrogen peroxide solution, comprising passing a charged aqueous hydrogen peroxide solution containing impurities through a purifier tower packed with an ion exchange resin, a chelate resin or an adsorption resin to thereby purify the charged aqueous hydrogen peroxide solution,

wherein there are provided a feed pump of given output capable of causing the charged aqueous hydrogen peroxide solution to flow to the purifier tower and further a flow sensor capable of sensing a flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower and wherein the output of the feed pump is controlled in cooperation with the flow sensor so as to bring the charged aqueous hydrogen peroxide solution into contact with the ion exchange resin, chelate resin or adsorption resin while maintaining the flow of charged aqueous hydrogen peroxide solution at a constant rate.

2. (Original) The process as claimed in claim 1, wherein the output of the feed pump for the charged aqueous hydrogen peroxide solution is controlled by means of an inverter.

3. (Original) The process as claimed in claim 1, wherein the flow rate of charged aqueous hydrogen peroxide solution is 5 to 40 hr⁻¹ in terms of space velocity.

4. (Original) The process as claimed in claim 1, wherein the flow rate of charged aqueous hydrogen peroxide solution is controlled so that its variation falls within the range of ± 2.5%.

5. (Original) The process as claimed in claim 1, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

6. (Currently Amended) An apparatus for producing a purified aqueous hydrogen peroxide solution, comprising at least one purifier tower packed with an ion exchange resin, a chelate resin or an adsorption resin, ~~through which resin for receiving~~ a charged aqueous hydrogen peroxide solution containing impurities ~~is passed~~ so as to effect contact thereof with the ion exchange resin, chelate resin or adsorption resin, thereby purifying the charged aqueous hydrogen peroxide solution,

which apparatus further comprises:

a feed pump of given output capable of causing the charged aqueous hydrogen peroxide solution to flow to the purifier tower,

a flow sensor capable of sensing a flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower by means of the feed pump, and

a flow control unit capable of controlling the output of the feed pump on the basis of a detection result of the flow sensor so as to maintain the flow of charged aqueous hydrogen peroxide solution being fed to the purifier tower at a constant rate.

7. (Withdrawn) The apparatus as claimed in claim 6, wherein the flow control unit is an inverter control unit capable of controlling the output of the feed pump for the charged aqueous hydrogen peroxide solution by means of an inverter.

8. (Withdrawn) The apparatus as claimed in claim 6, wherein the flow control unit is one capable of controlling the flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower so as to be in the range of 5 to 40 hr⁻¹ in terms of space velocity.

9. (Withdrawn) The apparatus as claimed in claim 6, wherein the flow control unit is one capable of controlling the flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower so that its variation falls within the range of ± 2.5%.

10. (Withdrawn) The apparatus as claimed in claim 6, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

11. (Withdrawn) The apparatus as claimed in claim 6, which further comprises a level sensor capable of detecting a water level in the purifier tower and a level control unit capable of maintaining the water of the purifier tower at a constant level on the basis of a detection result of the level sensor.

12. (Withdrawn) The apparatus as claimed in claim 6, which further comprises a pressure sensor capable of detecting an internal pressure of the purifier tower and a pressure control unit capable of maintaining an internal part of the purifier tower at a constant pressure on the basis of a detection result of the pressure sensor.

13. (Withdrawn) The apparatus as claimed in claim 12, wherein the pressure control unit is one capable of effecting such a control as to carry out not only stopping of the feed pump but also feeding of cooling water into the purifier tower on the basis of a detection result of the pressure sensor.

14. (Withdrawn) The apparatus as claimed in claim 6, which further comprises a temperature sensor capable of detecting an internal temperature of the purifier tower and a temperature control unit capable of maintaining an internal part of the purifier tower at a constant temperature on the basis of a detection result of the temperature sensor.

15. (Withdrawn) The apparatus as claimed in claim 14, wherein the temperature control unit is one capable of effecting such a control as to carry out not only stopping of the feed pump but also feeding of cooling water into the purifier tower on the basis of a detection result of the temperature sensor.

16. (Withdrawn) The apparatus as claimed in claim 6, which further comprises a strainer arranged at a bottom part of the purifier tower, said strainer comprising a

filter and, disposed thereunder, a flange member having at its center a liquid drawoff port and having open grooves disposed substantially in the form of concentric circles, said open grooves communicating with the liquid drawoff port.

17. (Withdrawn) The apparatus as claimed in claim 6, wherein a plurality of purifier towers are connected to each other in series.

18. (Withdrawn) The apparatus as claimed in claim 6, wherein a plurality of purifier towers are connected to each other in series, and the flow sensor and the flow control unit are arranged at a line for feeding the charged aqueous hydrogen peroxide solution to the first purifier tower.

19. (Original) The process as claimed in claim 2, wherein the flow rate of charged aqueous hydrogen peroxide solution is 5 to 40 hr⁻¹ in terms of space velocity.

20. (Original) The process as claimed in claim 2, wherein the flow rate of charged aqueous hydrogen peroxide solution is controlled so that its variation falls within the range of ± 2.5%.

21. (Original) The process as claimed in claim 3, wherein the flow rate of charged aqueous hydrogen peroxide solution is controlled so that its variation falls within the range of ± 2.5%.

22. (Original) The process as claimed in claim 2, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

23. (Original) The process as claimed in claim 19, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

24. (Original) The process as claimed in claim 21, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

25. (Withdrawn) The apparatus as claimed in claim 7, wherein the flow control unit is one capable of controlling the flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower so as to be in the range of 5 to 40 hr^{-1} in terms of space velocity.

26. (Withdrawn) The apparatus as claimed in claim 7, wherein the flow control unit is one capable of controlling the flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower so that its variation falls within the range of $\pm 2.5\%$.

27. (Withdrawn) The apparatus as claimed in claim 8, wherein the flow control unit is one capable of controlling the flow rate of charged aqueous hydrogen peroxide solution being fed to the purifier tower so that its variation falls within the range of $\pm 2.5\%$.

28. (Withdrawn) The apparatus as claimed in claim 25, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

29. (Withdrawn) The apparatus as claimed in claim 27, wherein any part brought into contact with the aqueous hydrogen peroxide solution is composed of a fluororesin.

30. (Withdrawn) The apparatus as claimed in claim 28, which further comprises a level sensor capable of detecting a water level in the purifier tower and a level control unit capable of maintaining the water of the purifier tower at a constant level on the basis of a detection result of the level sensor.

31. (Withdrawn) The apparatus as claimed in claim 29, which further comprises a level sensor capable of detecting a water level in the purifier tower and a level control unit capable of maintaining the water of the purifier tower at a constant level on the basis of a detection result of the level sensor.

32. (Withdrawn) The apparatus as claimed in claim 30, which further comprises a pressure sensor capable of detecting an internal pressure of the purifier tower and a pressure control unit capable of maintaining an internal part of the purifier tower at a constant pressure on the basis of a detection result of the pressure sensor.

33. (Withdrawn) The apparatus as claimed in claim 31, which further comprises a pressure sensor capable of detecting an internal pressure of the purifier tower and a pressure control unit capable of maintaining an internal part of the purifier tower at a constant pressure on the basis of a detection result of the pressure sensor.

34. (Withdrawn) The apparatus as claimed in claim 13, which further comprises a temperature sensor capable of detecting an internal temperature of the purifier tower and a temperature control unit capable of maintaining an internal part of the purifier tower at a constant temperature on the basis of a detection result of the temperature sensor.

35. (Withdrawn) The apparatus as claimed in claim 15, which further comprises a strainer arranged at a bottom part of the purifier tower, said strainer comprising a filter and, disposed thereunder, a flange member having at its center a liquid drawoff port and having open grooves disposed substantially in the form of concentric circles, said open grooves communicating with the liquid drawoff port.

36. (Withdrawn) The apparatus as claimed in claim 16, wherein a plurality of purifier towers are connected to each other in series.

37. (Withdrawn) The apparatus as claimed in claim 17, wherein a plurality of purifier towers are connected to each other in series, and the flow sensor and the

Appl. No. 09/855,152
Amdt. dated 12-10-03
Reply to Office Action of 9-11-03
Attorney Docket No. 1217-010740

flow control unit are arranged at a line for feeding the charged aqueous hydrogen peroxide solution to the first purifier tower.